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clude cases of shock, sprained wrists and ankles, and occasionally severe bleeding.

The practical value of the unit, Prevention of Communicable Diseases, is shown by the more frequent and proper use of handkerchiefs, the turning of heads when coughing or sneezing, and a conscious effort on the part of the pupils to avoid spreading colds. Fewer fingers and pencils find their way to mouths, and the cleanliness level of the classes rises for awhile at least. Occasionally some pupils become more inquisitive than others and initiate experiments of their own. One boy tested the effect of various antiseptics on bacteria growing on a sterilized potato. Another rubbed a coin on a piece of sterile potato and observed the resulting bacterial growth. He convinced himself that money should not be placed in the mouth.

The school and classroom offer small opportunity to observe food habits of pupils. In the cafeterias the pupils are limited financially so the observations are necessarily meagre. Yet a few changes can be noted. During the past several years there has been an increase in the sale of milk, vegetables, and salads with a corresponding decrease in other articles such as cake and candy. Sales of fresh fruit, on the other hand, have not increased because the pupils are urged to bring fruit from home as it is less expensive and to spend their money for other foods not so easily carried.

The change in the food sales in the school cafeterias cannot be attributed entirely to the hygiene instruction of grade 7B, since throughout the elementary grades pupils receive instruction regarding proper foods for growth and health. The junior high school cafeterias, however, offer the first opportunity to observe the practical application of this teaching.

The goal of all life and specifically of health as expressed by Dr. J. F. Williams is "to live most and serve best." The Baltimore course of study in Hygiene seeks to attain this end.

THE SIGHT CONSERVATION CLASSES OF BALTIMORE CITY

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The education of the totally blind child has been conducted quite satisfactorily for a number of years by the special schools for the blind. However, there exists a large population of school children whose vision is limited to a degree where they are definitely under a handicap, but by no means enough to be classified among the blind.

The first attempt to meet the problem of the education of such children was the establishment of a *myope* class for near-sighted children in the Boundary Lane School in London in 1908. The idea spread to this country, and the first sight saving class was opened in Boston in 1913, to be followed shortly by one in Cleveland. Within a short time such classes were opened in many cities in Ohio and Massachusetts, and in New York City. Their value has since been accorded full recognition, and they have spread to every state. In this country these classes, commonly called "sight saving" classes, have not been confined to myopic children alone, but have been available to any child with defective vision, whatever the cause. The maximal and minimal

visual requirements for admission to such classes vary slightly in each city. It is recognized, however, that children with less than the required minimum amount of vision are better trained in the schools for the blind.

The objective of sight saving classes is to provide visually handicapped children with the same type of education offered to children with normal vision, and to preserve their defective sight. Pupils are also taught sufficient eye-hygiene to be able to care properly for their own eyes.

28 in 1928. Since that time one or two new classes have been opened practically every year. At the termination of the school year in 1934 there were ten such classes with an enrollment of 159 pupils.

Whenever pupils are detected showing symptoms of defective vision, they are referred to an ophthalmological clinic or to a private physician. If examination shows their vision to be sufficiently defective, they are certified for admission to the sight saving class. The requirements for such certification are: (1) children

Individual instruction aids sight saving children to learn to read.

Vocational guidance aids these pupils to select the vocation best suited to their ocular condition. If the vision of a child improves, he can be returned to the regular grade without having lost any of his grade progress.

The first sight conservation class in Baltimore was opened in 1926. A second class was inaugurated the following year, the total enrollment of both classes being

who cannot read more than the line marked 60 on the Snellen Chart at 20 feet (commonly designated as 20/60); (2) myopes who have more than 6 diopters * of myopia; (3) cases of progressive myopia; (4) a high degree of farsightedness or astigmatism, and where the vision cannot be brought up to more than 20/60 with glasses; (5) children with corneal scars, cataracts, congenital malforma-

* The strength of lenses selected to correct the errors of refraction.

tions, or diseases of the fundus whose vision is 20/40 or less. It can easily be seen that such children not only work under a distinct handicap in the regular grades but also tend to retard the general class progress. Further, they jeopardize their eyesight to such an extent that they are likely to become economic liabilities in later life. The sight saving classes thus remove a handicap from the general class progress and also protect the education and the future welfare of visually handicapped children.

In these classes all the written work and reading is done in a room equipped with dull-surfaced furniture, indirect lighting and special window shades, all of which tend to eliminate glare. All books for the use of these children are printed in 24 point type, and all writing is done with special large black lead pencils on buff or yellow paper. The children are also taught handwork of the type not to cause eye discomfort and are early instructed in the use of the bulletin type typewiter.

It is our purpose in this paper to analyze the work that has been going on with these visually handicapped children of the Baltimore City public schools during the past eight years. These data will then allow us to draw conclusions as to the value of such special classes, and determine methods of improving them.

Out of a total school population of 90,176 in grades one to eight inclusive, 159 children were enrolled in the sight saving classes. However, this does not mean that these were the only children with defective vision in the schools. Numerous children of this type were and are still attending the regular classes. They present a definite problem. They are kept in the regular grades for diverse reasons, the chief of which is the objection of parents to having their children segregated or sent to a distant school and the lack of adequate means of detecting children with poor vision. The 159 pupils attending sight saving classes included 76 boys and 83 girls. It is the aim of the authorities to select pupils with defective vision at the earliest possible time in order to give them the maximum benefit of the special classes. The successful attainment of this object can be seen in the Tables I and II.

TABLE I

Grades of Pupils in Sight Saving Classes

Grade	*White*	*Colored*
First	19	13
Second	13	14
Third	8	22
Fourth	12	13
Fifth	11	18
Sixth	6	3
Seventh	5	—
Eighth	2	—
Total	76	83

The majority of the children in Table I is in the first four grades. Table II analyzes Table I from the viewpoint of the age incidence. Here we see the effectiveness of the methods employed to detect children at an early age.

TABLE II

Age of Pupils in Sight Saving Classes

Year	*White*	*Colored*
Sixth	4	2
Seventh	7	5
Eighth	6	7
Ninth	13	10
Tenth	9	7
Eleventh	13	9
Twelfth	7	12
Thirteenth	7	12
Fourteenth	7	12
Fifteenth	3	4
Sixteenth	—	3
Total	76	83

The problem of defects other than visual must also be faced before a child is admitted into the sight saving class. If a child has more than one handicap, it is

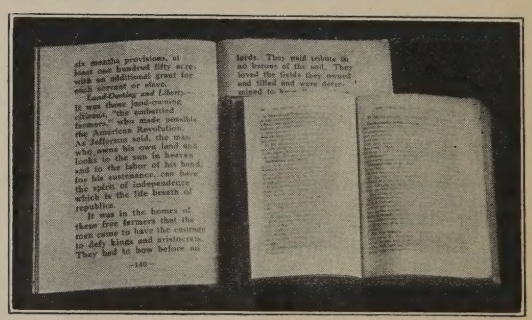
necessary to decide in which type of special class he should be placed. Hence there arise such questions as the precedence of cardiac impairment over visual defects and of deafness over poor sight. Cases must be considered separately, each child receiving the type of training that will enable him to take his place in the social structure with the greatest benefit to himself and to society. There are, therefore, children in the sight saving classes who have other defects than poor vision but it is felt that if their sight is conserved, they will in a great measure be enabled to overcome other handicaps. Among such children are those with partial deafness, speech defects, mild cardiac impairment, non-active pulmonary tuberculosis, orthopedic troubles, nervous disorders, obesity, and nutrition problems. These various defects are treated as they come. When the predominant handicap is felt to be the visual one, children with more than one defect are kept in the sight saving class rather than in classes for otherwise handicapped children.

Another factor which influences the education of these children is their intelligence quotient. The question arises as to whether a child with impaired vision and a low I. Q. is really defective mentally, or whether the low I. Q. is the result of poor visual perception. Undoubtedly, these children receive visual impressions at a slower rate than the normal sighted child; consequently, one must make allowance for the fact that they will not be able to cover their lessons at the same speed as children in the regular grade. When such visually defective children are in the regular classes, they are often felt to be mentally backward, though the fact is that they are not able to keep up the same rate of reading speed as their classmates. Thus it would be expected that the sight saving classes would show a lower I. Q. than the normal classes. The intelligence quotients in the following table are based upon the Stanford Revision of the Binet-Simon Test.

TABLE III

I. Q.	*White*	*Colored*
50-59	1	7
60-69	5	27
70-79	20	16
80-89	22	16
90-99	19	8
100-109	4	1
110-119	3	—
120-129	1	—
Not tested	1	8
Total	76	83

Assuming the normal I. Q. to be from 90 to 110, we find that 23 of the 76 white children and 9 of the 83 colored children fall within this classification. This difference of ratios between white and colored children with a normal I. Q. is comparable to that found existing between the two races throughout the entire school population. It can be seen from Table III that the bulk of the white children have an I. Q. from 70 to 100, while among the colored children the range is from 60 to 90. We feel that many of these children are therefore not actually of retarded mentality, but that because of the diminished speed of perception they move through their school work and through life at a somewhat decreased pace as com-



Type for sight saving children versus type for normal sighted children.

pared to normal sighted children. These figures do not include those visually defective children who show definite evidence of mental deficiency, for these have been placed in the special schools for this type of disturbance.

As was mentioned in the preceding part of this paper, the first sight saving classes were *myope* classes, dealing only with near sighted children. In this country, however, their scope has expanded, so that they now include all children with defective vision, no matter what the cause may be. We have separated all of the cases for the purpose of this study into two chief groups, the myopic, or near sighted, and those with disease changes of the eyes. The importance of this differentiation will be manifest later.

In our total of 159 children there are 89 showing pathological changes which have resulted in decreased vision. The eyes of all of these children have been permanently damaged by the disease process, but the condition is practically stationary, and its progression is not dependent upon the use of the eyes. Our function here is to enable these children to utilize to the maximum the limited vision that they have. We can feel fairly certain that the visual potency will not be diminished with the passage of time.

The myopes, however, present an entirely different problem, and it is our feeling that the sight saving authorities should consider them from a different viewpoint. Myopia, or near sightedness, is usually due to an enlargement of the size of the eyeball. In its lower degrees it is an anatomical anomaly, comparable to variations in size of other organs, such as the nose, ears, and hands, and is thus not considered to be a disease. Due to the slight increase in the size of the ocular globe, it is necessary for such children to wear glasses to bring objects to a focus upon the retina and thus afford distinct vision. The total handicap is the necessity of wearing glasses. However, there is a group of cases where the enlarged eyeball, instead of maintaining its acquired size, continues to stretch; in other words, we have a "progressive myopia." This is not a normal variation, and must be regarded as a disease of considerable gravity. With the progressive enlargement of the globe, the delicate retina cannot stretch, and fissures appear in it, which often lead to a detachment of the retina and total blindness. In this progressive stage concave glasses of increasing thickness must be worn, and a point is soon reached where even the wearing of glasses cannot afford distinct vision. It is essential that the myopes be carefully checked at frequent intervals in order to determine whether or not their myopia is stationary.

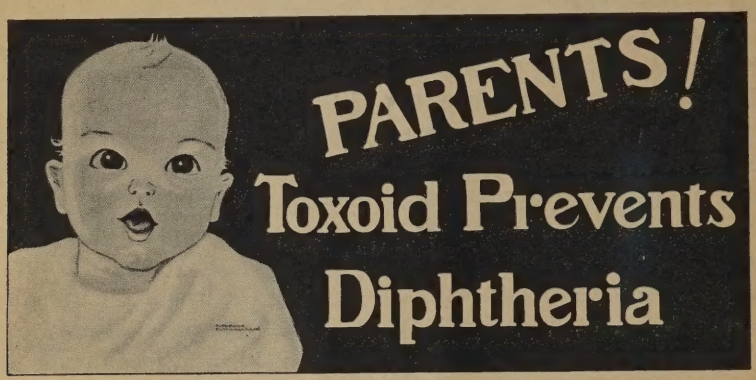
Since the causation of progressive myopia is unknown at present, our only method of combatting this condition is to relieve the eyes of as much exertion as we possibly can. This is done by limiting the use of the eyes for close work to definite periods, and, in extreme cases, even to the total prohibition of close work. In the higher social levels children of this type are provided with tutors who can carry on the education of the child with the minimum requirements of ocular usage. This is, of course, manifestly impossible for poorer children, and it thus devolves upon the sight saving teacher to act as the tutor for these children and to give them as much individual instruction as she can. There are at present 70 myopic children in the sight saving classes. Of these, 29 have myopia ranging from 5 to 8 diopters; 30 who range from 8.5 to 12 diopters. We must place the 41 children whose myopia is over 8.5 diopters in the classification of progres-

sive myopia. How many of the remaining 29 will later come into this category cannot be foretold at present. Only the careful checking of their refraction from year to year will yield this information.

Conclusions

From our survey of the sight saving classes of Baltimore city during the past year, we derive the following conclusions:

1. There are still a number of children attending the regular classes who belong in these special groups, but who for diverse reasons cannot be transferred. The regular grade teacher should keep these children under careful observation, and supplement their work with special instruction.
2. These children are not mentally retarded, but their progress in obtaining an education is impeded by defective sight, so that they are not able to cover the same school work in the same length of time as the normally seeing children.
3. An attempt should be made to study the special talents of such children at an early age, so that they can be guided into vocations which will require the least visual strain, the maximum enjoyment, and make them self-supporting.
4. The greatest care should be devoted to the myopic children. Their work should require the very minimum of ocular expenditure, supplemented by a maximum of auditory instruction. The value of yearly examinations to determine the progress of their myopia cannot be stressed too strongly because their entire future depends upon this factor.



DIPHTHERIA PREVENTION

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In a high school diphtheria prevention poster contest sponsored jointly by the Department of Education and the City Health Department, during the spring of 1934, Miss Ruth Houck, a member of the graduating class of the Eastern High School was declared winner. Her work, reproduced above was used as the illustration on 6,000 posters and 100,000 hand bills which constituted an important part of approximately 450,000 pieces of printed matter distributed during October 1934, in Baltimre's fourth annual diphtheria prevention campaign. The extensive campaign publicity, which included also press releases, radio broadcasts, outdoor billboard posters, street car signs, the exhibition of a diphtheria prevention film in the theaters and announcements by the clergy, was supplemented by the assistance of all Baltimore Parent-Teacher Associatins, whose visiting committees made approximately 30,000 personal calls upon the parents of preschool children for the